

HOW TO... Manage data in Excel

If your edition of Microsoft Office doesn't have a database application, you can use Excel instead. Rod Lawton explains how powerful Excel's lists can be

You may be surprised to learn that Excel can sort and filter data in microseconds, apply multiple search criteria using nothing more complex than drop-down menus, and even calculate totals on the fly from both full and filtered data. Our example of an Excel list is a worksheet for tracking everyday household accounts, but the same techniques and principles can be applied to many other kinds of data.

Excel worksheets may look like dull walls of information, but if you can get past that you'll discover just how efficient and simple its database tools are.

1 There are two ways you can populate your Excel list. You can start your list from scratch, which we'll demonstrate in the next step, or import data from another program. For data import, you need a delimited text file. These come in two main variants: tab-delimited and comma-delimited. In both cases each line, or record, is separated by a Return character. Each column, or data field, within the line is separated by a tab (tab-delimited) or a comma (comma-delimited).

First save the data you want to use in either of these text file formats. Then, in Excel select File, Open. Click on the Files of type box and select All Files. Then double-click on the data file you want to import. This starts the three-step Text Import wizard. First, choose Delimited in the

Original Data Type section. Next choose the Delimiter; ours was tab-delimited. Finally, you've the option of setting data formats for each column. However, this can be done just as easily after the file is opened.

2 Alternatively, you can create your list from scratch within Excel. Start with a new, blank worksheet. Enter the headings for your columns in the first row. These will be the data fields. Next, in row 2 start to enter your data. In our example, this is the first transaction (known as a record) in our list. One record is enough for Excel to recognise as a list but you will probably want to enter more information.

When you've done that, select any cell and go to Data, List, Create List. When the Create List dialog box appears, check that Excel has correctly selected all the cells you wanted. For Excel to recognise lists properly, they must have no gaps; in other words, the data and the title row must be contiguous. Don't insert a blank row between the title row and the data just to make the list look neater, because this will stop it working.

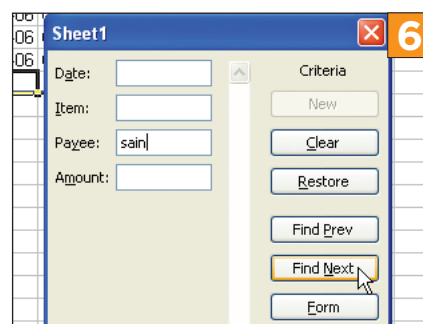
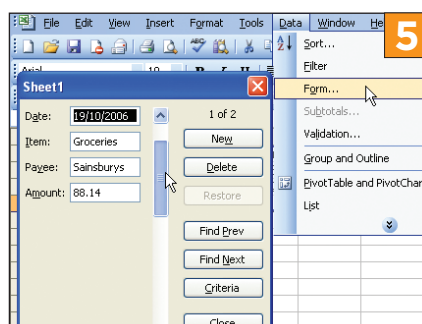
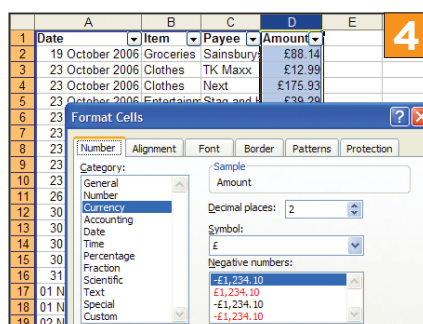
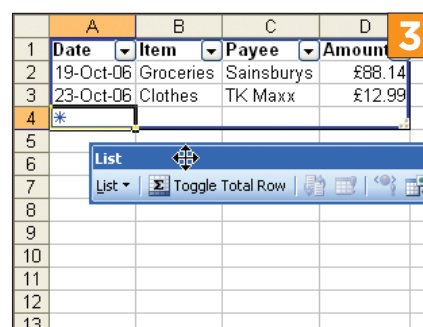
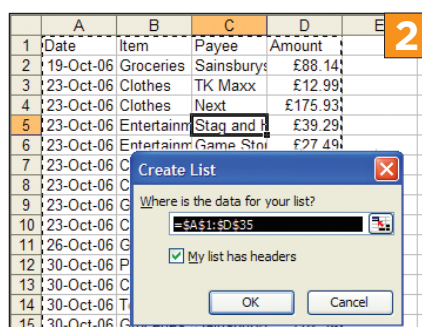
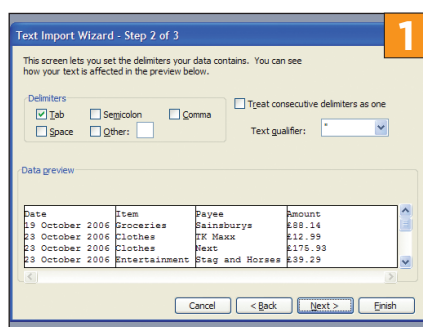
Click OK. Excel makes the title row bold, and gives each heading a drop-down menu. These are the AutoFilter menus.

3 Once your data is formatted as a list, you'll notice three things. First, there's now a List toolbar on the screen, either free-floating or placed at the top of the worksheet.

To move this toolbar around, if the toolbar is docked on the top of the screen, move the cursor over the left-hand edge of the toolbar. When it turns into a four-headed arrow, click and drag the toolbar into position. If the toolbar is free-floating, move the cursor over the blue title bar, then click and drag. Second, Excel marks out the list's range with a blue border. Third, the last row in the data range is blank, and marked with a blue asterisk at the start of the left-most cell. This is where you type in new records.

As soon as you've filled in a record, the asterisk will appear in the row below, ready for the next entry. This is an important feature of Excel lists. It ensures that Excel treats the new data as an additional row to be included in its totals, filters and sorts.

4 Our list contains mixed data. There's a Date column and an Amount column. These columns may need to be formatted; if you imported data from a text file, Excel may already have applied appropriate formats. To format a Date column, select the whole column by clicking on the letter at the top. Then go to Format, Cells. Alternatively, right-click the highlighted cells and select Format Cells. It's important to use a proper date format because if you enter plain text, such as 'December 15', Excel will sort the column alphanumerically rather than chronologically, and your dates will get mixed up. You can format an Amount



column using one of Excel's currency formats. These can be set to display a currency symbol and two decimal places.

5 Our data is already starting to look and behave like a proper database. There is another way to enter data in your worksheet, which might appeal more to those familiar with the sort of interface used by a database. It's also handy for entering and managing a lot of records at once. Go to the Data menu and select Form to display Excel's Form view. Use the vertical scroll bar in the middle to scroll through records. When you reach the bottom a new, blank record will be shown. Alternatively, to enter a record quickly, hit the New button.

6 You can use the Form view to find information too, though it's not as useful or as comprehensive as the AutoFilter menus. But it is a handy method if you already have the dialog box open to enter records. Let's say we want to look up purchases we've made from our local supermarket. To do this, click the Criteria button in the Form dialog box. Enter a value in any of the fields, which represent the columns in your list. For our example, we'll enter 'sain' in the Payee field. There's no need to type the whole name, as there aren't any other payees whose name starts with 'sain'.

The dialog shows the first record that matches the criteria you've typed. Click the Find Next button to scroll through all the other matching records.

7 The Form view is OK as far as it goes, but you can do more using the AutoFilter menus. For one thing, these menus are a safer way to sort your data than using the Sort command from the Data menu. When you use this command, you need to make sure all the data fields are highlighted. If you forget to do this, you could muddle up your data. This isn't the case with the AutoFilter. Enter a record that has a date earlier than the first record, so the list isn't in proper chronological order. Click on the

Date AutoFilter, and select Sort Ascending from the menu that appears. All the records will be reordered correctly. You can do this on all the other columns, too.

8 This is just the start. The AutoFilter menus also list each different item in that column's data. You'll see the point of this when you choose one of these items from the list. Excel will filter the data so only those items are shown. What's more, these AutoFilters can be used in combination. For example, we could filter the Payee column so only purchases from a particular shop are shown, then filter the Item column to show just a certain type of purchase.

When a filter has been applied, the AutoFilter icon changes from black to blue and the row numbers on the left turn blue, too. You need to switch off any column filtering (choose All at the top of the AutoFilter menu) to view your full data again.

9 If you inadvertently vary the spellings or phrases in some of your columns, you'll get multiple versions of the same thing. In our list of household expenses, we might have Groceries, Shopping or Food, all of which mean the same thing. You can get around this kind of error with data validation, where your input is restricted to a predefined list of items.

We can apply this to our list. In a separate part of the worksheet, enter all the different types of items that might appear in the Item column. Select the Item column and go to Data, Validation. In the dialog box that appears, select List from the Allow menu. Click on the button at the far right of the Source box to collapse the dialog box then select the range of cells that contains the list of valid items. Click the button to expand the dialog again. Make sure the 'In-cell dropdown' box to the right is ticked. Click OK. When you enter a new transaction, a drop-down menu button appears to the right of the Item cell and this lists the valid items you can choose.

DID YOU KNOW?

Excel lists can be used for mailmerge. You can set up a list of your contacts' names and addresses, then use the Excel file as your data source within Word.

10 It would be useful if we could use our list to add up how much we've spent, and on what. Take a look at the List toolbar. Second from the left is a Toggle Total Row option. When you click this, Excel adds a total row to the bottom of the list. In our example, it automatically recognises that the Amount column contains numbers, and inserts a SUM function in the total row.

There are two clever things about the Total Row. First, it's automatically repositioned at the bottom of the list as you add new records. Second, if you use the AutoFilters to find specific items, it displays the total for these items only.

11 Let's say we're not just interested in how much we spent at the supermarket, but how many times we visited it. We can do this using the Total Row. Each cell in the Total Row has a drop-down menu offering a selection of functions. To see the drop-down menu, click in a Total cell and then on the down-pointing arrow that appears. Our Amount total already uses the SUM function for totalling the amounts in the rows above. However, for the Payee total we can use the COUNT function instead. This cell will now list the total number of transactions if our list is unfiltered or, if we've filtered the Payee column to show a specific shop, it will count the number of payments made to that shop.

12 To find more than one payee from the list, you can use the Custom option on the AutoFilter menu. This opens a dialog box where you can combine criteria using the And option, if you want to see records only where both criteria match. Use the Or option if you want to see records where one or other of the criteria match. Custom AutoFilters are a little bit more time-consuming and technical, but they do demonstrate that Excel's data-handling tools are more powerful and extensive than they first appear.

1	A	B	C
2	Date	Item	Payee
3	Sort Ascending	Groceries	Sainsburys
4	Sort Descending	Clothes	TK Maxx
5	(All)	Clothes	Next
6	(Top 10...)	Entertainment	Stag and Horses
7	(Custom...)	Entertainment	Game Stores
8	19 October 2006	Car expense	Sheddons
9	23 October 2006	Clothes	Matalan
10	30 October 2006	Groceries	Sainsburys
11	01 November 2006	Cash	Barclays
12	02 November 2006	Groceries	Sainsburys
13	06 November 2006	Petrol	Sainsburys
14	08 November 2006	Clothes	Marks and Spenc
15	13 November 2006	Telephone	Orange
16	14 November 2006	Groceries	Sainsburys
17	15 November 2006	Entertainment	Game Stores
18	16 November 2006	Entertainment	Sainsburys

1	A	B	C
2	Date	Item	Payee
3	9 October 2006	Sort Ascending	Sainsburys
4	23 October 2006	Sort Descending	Sainsburys
5	16 October 2006	(All)	Sainsburys
6	10 October 2006	(Top 10...)	Sainsburys
7	November 2006	(Custom...)	Sainsburys
8	November 2006	Groceries	Sainsburys
9	November 2006	Petrol	Sainsburys
10	November 2006	Groceries	Sainsburys
11	November 2006	Groceries	Sainsburys
12	November 2006	Groceries	Sainsburys

Data Validation

Settings Input Message Error Alert

Validation criteria

Allow: List

Data: between

Source: =Sheet2:Sheet1

☒ Ignore blank ☒ In-cell dropdown

1	A	B	C	D
2	Date	Item	Payee	Amount
3	19-Oct-06	Groceries	Sainsburys	£88.14
4	23-Oct-06	Groceries	Sainsburys	£57.90
5	Total			£146.04

1	A	B	C	D
2	Date	Item	Payee	Amount
3	19-Oct-06	Groceries	Sainsburys	£88.14
4	23-Oct-06	Groceries	Sainsburys	£57.90
5	Total			£146.04
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Custom AutoFilter

Show rows where:

Payee equals Sainsburys

And Or

equals Boots

Use ? to represent any single character
Use * to represent any series of characters

OK Cancel